

We Claim:

1. A gripper device in a sheet-processing machine, the gripper device comprising:

a gripper pad having a first clamping face;

a gripper having a second clamping face and being associated with said gripper pad for cooperatively engaging with said gripper pad to produce a clamping force for holding sheets being processed;

a first drive for moving said gripper out of an opened position thereof into a closed position thereof; and

a second drive separately operable from said first drive during a production printing operation of the sheet-processing machine;

said first and second drives being operable to position at least one of said gripper and said gripper pad for moving at least one of said first and second clamping faces with said second drive perpendicularly to the other said of said first and second clamping faces.

2. The gripper device according to claim 1, wherein said second drive is a piezo-actuator drive.

3. The gripper device according to claim 1, wherein said gripper, in said closed position thereof, is positionable locally fixed with respect to said gripper pad by said first drive, and said gripper pad is movable relative to said gripper by said second drive for clamping the sheets with said gripper closed.

4. The gripper device according to claim 3, further comprising a gripper shaft whereon said gripper is mounted fixed against rotation relative thereto, said gripper shaft being lockable in said closed position by said first drive.

5. The gripper device according to claim 4, wherein said first drive is a rotary drive for acting upon an axis of rotation of said gripper shaft for locking, by a stoppage torque thereof, said gripper shaft in said closed position.

6. The gripper device according to claim 4, wherein said first drive is a linear drive for acting through a lever upon an axis of rotation of said gripper shaft for locking, by a stoppage torque of said linear drive, said gripper shaft in said closed position.

7. The gripper device according to claim 3, further comprising a self-locking mechanism for coupling said first

drive with said gripper for locally fixed positioning of said gripper in said closed position.

8. The gripper device according to claim 7, wherein said self-locking mechanism is a toggle-lever mechanism.

9. The gripper device according to claim 4, further comprising a further drive for varying the position of said gripper shaft relative to said gripper pad.

10. The gripper device according to claim 3, wherein said gripper is movable by said first drive with respect to said gripper pad out of said opened position and into said closed position in a plane extending at least approximately parallel to a transport plane of the sheets.

11. The gripper device according to claim 10, wherein said first drive is a piezo-actuator.

12. The gripper device according to claim 12, wherein said second drive is a piezo-actuator whereon said gripper pad is disposed.

13. The gripper device according to claim 12, wherein said piezo-actuator is formed by a multiplicity of individual piezo-elements disposed in a stack-shaped manner.

14. The gripper device according to claim 1, wherein said gripper pad is positionable locally fixed, and said first drive and said second drive are mechanically coupled with said gripper for moving said gripper out of said opened position and into said closed position by said first drive, and for moving said gripper into said closed position by said second drive for clamping the sheets at least approximately perpendicularly to said gripper pad.

15. The gripper device according to claim 14, wherein said gripper is swivelable about a swivel point, and said second drive serves to act upon said swivel point for varying a position of said swivel point.

16. The gripper device according to claim 1, further comprising a programmable electronic control device for operating said first and second drives.

17. The gripper device according to claim 16, further comprising a sensor coupled with said control device for measuring a clamping force to act between said gripper and said gripper pad, said second drive being movable via said control device in accordance with signals from said sensor for varying a spaced distance between said gripper pad and said gripper.

18. The gripper device according to claim 17, wherein said sensor is accommodated on said gripper pad.

19. The gripper device according to claim 17, wherein said electronic control device serves for moving said second drive as a function of the signals from said sensor for actively counteracting bouncing of said gripper during said closing operation by effecting a relative change in said distance between said gripper and said gripper pad.

20. The gripper device according to claim 19, wherein said gripper pad is to be lowered by said second drive during closure of said gripper.

21. The gripper device according to claim 1, wherein said gripper is one of a plurality of grippers defining a row of grippers, said plurality of grippers having appertaining gripper pads disposed along said row of grippers, said grippers and said appertaining gripper pads along said row of grippers to be disposed alternately offset relative to one another by said first drive and said second drive during production printing operation for forming a corrugation in a gripped edge of a respective sheet.

22. The gripper device according to claim 1, wherein said gripper is one of a plurality of grippers defining a row of grippers, said plurality of grippers having appertaining gripper pads disposed along said row of grippers on a sheet-guiding cylinder disposed upstream in a sheet transport direction, and a plurality of further grippers have appertaining gripper pads being disposed along a further row of grippers on a downstream sheet-guiding cylinder, said grippers and said appertaining gripper pads of said upstream cylinder being movable by said first drive and said second drive relative to said grippers and said gripper pads of said downstream cylinder during production printing operation as a function of a thickness of a sheet being processed, for rectilinearly extending an edge of the sheet during sheet transfer.

23. A sheet-processing machine, comprising a gripper device including:

a gripper pad having a first clamping face;

a gripper having a second clamping face and being associated with said gripper pad for cooperatively engaging with said gripper pad to produce a clamping force for holding sheets being processed;

a first drive for moving said gripper out of an opened position thereof into a closed position thereof; and

a second drive separately operable from said first drive during a production printing operation;

said first and second drives being operable to position at least one of said gripper and said gripper pad for moving at least one of said first and second clamping faces with said second drive perpendicularly to the other said of said first and second clamping faces.